

Re: Fairness in Internet Traffic

I have attached a letter I sent to my representative, Roscoe Bartlett, after the failure of the "Net Neutrality Amendment". I still have received no reply, and no mention is made of his attitude towards Internet regulation on his website, so I am led to believe he, along with many others, have based their opinions on this issue on the skewed testimony of lobbyists and a naive understanding of the functioning of the Internet. In my letter, I attempt to explain the issues surrounding "net neutrality" in accurate, understandable terms. By submitting this letter, I hope to aid all Congresspersons and Senators in their future deliberations on this matter.

--Kyle Sluder

ENCLOSURE: Letter to Rep. Roscoe Bartlett

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Kyle Sluder

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XXXXXXXXXXXX, MD XXXXX

Rep. Roscoe Bartlett

2412 Rayburn House Office Building

Washington, D.C. 20515-2006

Rep. Bartlett,

I am upset that you voted "no" to amendment H.AMDT.987, concerning network neutrality in the Communications Opportunity, Promotion, and Enhancement Act of 2006 (H.R. 5252). I would like to take this opportunity to explain why I feel that the provisions laid out in this amendment are crucial to the continued viability of the Internet, as well as give you an opportunity to explain the reasoning behind your vote in a depth that the Library of Congress website cannot provide.

I am an undergraduate student double-majoring in Computer Science and Economics at Loyola College in Maryland, and I believe I am well-versed enough in both the technology and business implications of H.AMDT.987 and H.R. 5252 as a whole to state my opinion. I assure you that I would not write you if I did not feel that I could adequately defend my position with facts and reason.

I have been engaged in the field of e-commerce for over six years now, and the highlights of my career include the development of a complete online storefront for an eyeglass company on Long Island, NY, and the development, revision, and maintenance of an educational subscription service marketed to elementary and secondary schools in Queens and Brooklyn. This latter position brought me face to face with the very resource limitations that the telecommunications industry claims threaten the Internet at large. The service we offered delivered large amounts of data in the form of interactive educational games to our clients and their students. As a small company, we could not afford the large bandwidth capacities companies such as Google and Microsoft require. Our situation was akin to water flowing through a pipe: we needed to send large amounts of water (data) through the pipe (network), but our pipe's diameter (bandwidth) was too small to deliver it at an acceptable speed. Instead, we were forced to come up with innovative and novel ways of ensuring that as little data as necessary was transferred over our server's Internet connection, while still delivering the rich multimedia experience that our customers demanded.

Since the implementation of this product over three years ago, demand for bandwidth from all over the world has done nothing but skyrocket as services such as YouTube, an online video site, and the iTunes Music Store, run by Apple Computer to sell digital music for its market-dominating iPod portable jukebox, transmit even larger amounts of data over the Internet. These services are able to deliver their content to their customers only by purchasing large amounts of bandwidth from higher-tier Internet Service Providers (ISPs) such as Cogent, Level3, and AT&T. Demand on the consumer side is also quite obviously soaring, as evidenced by Verizon's recent deployment of FIOS, a fiber-optic Internet service that offers bandwidth allocations orders of magnitude greater than those deliverable over cable or DSL connections.

Yet the problem of limited bandwidth is hardly new. Claude Shannon and David Huffman wrangled with compression as far back as the 1950's, attempting to fit more data on physical disks and down virtual pipes. Since their research, the capacity for networks has increased exponentially, driven by the law of demand so familiar to students of economics: as customers demanded the ability to send more data per second over what became the Internet, service providers developed new technologies to deliver this capacity. This constant growth, which shows no signs of abating, has fuelled the economic success story

that is the Internet.

So why does the telecom industry now feel that it needs to charge additional fees to those customers who wish to receive the benefits of improved network capacity? The reason is simple: they wish to price discriminate among their customers, a tactic only possible in a monopoly situation such as the one existing in today's telecommunications industry. If AT&T can, at its discretion, collect additional revenue from a client, it would love to do so. In addition to double-charging the content provider, this arrangement leads to aggravation for the end-user, as now they may be forced to sacrifice their time waiting to access an Internet service while data originating from elsewhere -- even, potentially, a competitor to the service which the user is attempting to access -- flows at a speedy clip.

To distill this problem into a real-world example, imagine you are attempting to access your online brokerage through TD Ameritrade. TD Ameritrade has not subscribed to its ISP's high-speed service, but E-Trade Financial has. Those who use E-Trade will be able to access stock information arbitrarily faster than you, affecting the financial market and your investment. Even if TD Ameritrade has purchased a larger amount of bandwidth from its ISP than has E-Trade, E-Trade's data will still take priority over that of TD Ameritrade. It is trivial to extend this scenario to any market reliant on the Internet, be it Voice-over-IP, videoconferencing, or otherwise.

There are ways to address bandwidth concerns other than by reselling the same commodity to a customer, artificially inflating its naturally-falling price. Traffic shaping and Quality-of-Service products juggle data so that those technologies that require near-realtime delivery of information receive priority over that data which is more immune to latency, irrespective of pricing agreements. New technologies such as fiber-optics make bandwidth incredibly inexpensive and easier to allocate. New compression techniques are constantly emerging, packing the same data ever smaller. By codifying network neutrality, the House could have done its part to ensure that the telecommunications providers could not erect an artificial financial barrier to entry that threatens the liveliness and desire of the Internet-based marketplace to continue its rapid innovation.

I eagerly await your reply, and hope that if the opportunity comes by again, you choose to ensure that future generations are still able to compete

on a fair Internet.

Sincerely,  
Kyle Sluder  
Constituent